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TITLE: MULTILAYER INTERCONNECTION SUBSTRATE

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ABSTRACT:

PURPOSE: To obtain a highly reliable multilayer interconnection substrate capable of releasing gas in its insulating layers and free from the breakdown of signal layers which affects the semiconductor device functions by utilizing a specially designed meshed metal layer.

CONSTITUTION: A metal layer 3 and a signal layer 4 as a ground layer or a power source layer are laminated on an insulating substrate 1 through an insulating layer 2 by a thin film growing technology in a multilayer interconnection substrate. The metal layer is formed in a mesh state so that the void ratio of the layer is 5~80%. Hole parts 3a are provided in the metal layer 3, and the mesh state is obtained. When the insulating layer 2 is heat-treated, and hardened, gas is released through the hole parts 3a in the metal layer 3 even if the gas is yielded in the insulating layer 2. Thus a gas well is not formed beneath the metal layer 3 and an upheaved part is not yielded on the insulating

layer 2 at all. The breakdown of the signal layer 4 caused by
the stress of
the upheaved part is not yielded at all.

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